

## Claims

What is claimed:

- 5 1. A method for predicting interference experienced by a first cell from a second cell, both first and second cells having at least one frequency hopping parameter, the method comprising the steps of:
- 10 determining an estimated interference level corresponding to interference experienced by the first cell due to the second cell;
- calculating the probability of the first cell hopping to substantially the
- 15 same frequency as the second cell;
- weighting the estimated interference level with the calculated probability; and
- modifying the at least one frequency hopping parameter in order to modify the weighted estimated interference level.
2. The method as claimed in Claim 1, wherein the at least one frequency hopping parameter is the number of frequencies used by the first cell.
3. The method as claimed in claim 1, wherein the at least one frequency hopping parameter is the choice of frequencies used for frequency hopping by the first cell.
- 20 4. The method as claimed in claim 1, further comprising providing further cells having further corresponding frequency hopping parameters, and:
- 25 determining further estimated interference levels corresponding to interference experienced by the first cell due to further cells;
- calculating the further probabilities of the first cell hopping to substantially the same frequency as each of the further cells;
- weighting the further estimated interference levels with the
- 30 corresponding calculated further probabilities; and
- modifying the at least one frequency hopping parameter in order to optimize the weighted estimated interference level and the further weighted estimated interference levels.
- 35 5. The method as claimed in claim 4, further comprising forming a matrix including the estimated interference level and the further weighted estimated interference levels.

6. The method as claimed in claim 5, further comprising forming a probability density function based on the weighted estimated interference level and the further weighted estimated interference levels.

5 7. The method as claimed in claim 6, further comprising forming a cumulative density function based on the probability density function.

8. A method of optimizing calculations corresponding to a first cell in a frequency hopping network, comprising the steps of:

10 fitting a probability model to the probability of cells in the network hopping to substantially the same frequency;

determining the cells in the network which have a probability above a predetermined threshold of hopping to substantially the said frequency; and

15 executing the calculations for the first cell based upon the sources of interference to the first cell which are in the determined cells.

9. The method as claimed in claim 8, wherein the determined cells comprise the strongest sources of interference in the network.

20 10. The method as claimed in any one of claim 8, wherein the probability model is a binomial probability model.